

Stated Meeting, June 18, 1880.

Present, 9 members.

President, Mr. FRALEY, in the Chair.

Mr. Wm. B. Rogers, Jr., a newly-elected member was introduced and took his seat.

Letters accepting membership were received from Joseph A. Murray, dated Carlisle, Pa., May 31, 1880; and from Ogden N. Rood, New York, May 10.

Letters of acknowledgment were received from the Royal Zoölogical Society, Amsterdam, dated June 2, 1880 (104); and the Royal Geological Society of Ireland (104).

Letters of envoy were received from H. Scheffler, dated Braunschweig, April 30, 1880; the Board of Commissioners of the Second Geological Survey of Pennsylvania, May 20; Mr. Frederick Fraley, Philadelphia, June 16; and John Hay, Assistant Secretary of the Department of State, Washington, May 22.

A letter was received from the Librarian of the Cincinnati Public Library, dated May 24, 1880, requesting to be allowed to buy certain volumes of the Transactions of the Society. The matter was referred to the Librarian with power to act.

A circular letter was received from the Smithsonian Institution, dated June 1, 1880, asking certain questions concerning the condition of the Society and its Library.

Donations for the Library were received from the Bureau of Mining, Melbourne; the Governor General of India; Academies at St. Petersburg, Berlin, and Rome; Observatory at Prague; Bureau of Statistics, Stockholm; Editors of *Flora Batava*, Leyden; Dr. Hermann Scheffler, and the Editor of the *Zoologischer Anzeiger*, Leipsig; M. A. Delesse, and the Editors of the *Revue Politique*, and *Annales des Mines*, Paris; Commercial Geographical Society, Bordeaux; Editor of the *Revista Euskara*, Pamplona; R. Astronomical Society, Victoria Institute, and Editors of *Nature*, London; Essex Institute, Salem; American Journal, New Haven; Brook-

lyn Entomological Society; American Chemical Society, and Editors of the American Entomologist, New York; Rensselaer Polytechnic Institute, Troy; Editor of the North American Entomologist, Buffalo; Zoölogical Society, Franklin Institute, Editors of the Medical News, and the American Journal of Pharmacy, Mr. Henry Phillips, Jr., Dr. F. V. Hayden, Mr. Chapman Biddle, and Mr. Benjamin H. Smith, Philadelphia; Mr. Peter Sheaffer, Pottsville; Board of Commissioners of the Second Geological Survey, Pennsylvania; Peabody Institute, Baltimore; Wabash College, Indiana; Col. Chas. E. Jones, Augusta, Georgia; Geographical and Statistical Society, and Editor of the *Revista Cientifica Mexico*; and Mrs. Ellen L. Schott.

Mr. Blodget made the following remarks upon certain features of Industrial Migrations as shown in the manufactures of Philadelphia.

The development of many of the industries of Philadelphia presents characteristics strikingly resembling those of nations conspicuous in history for industrial prosperity. History as usually written affords but an imperfect view of the real causes of national growth, and we are led to infer that the employment of the people is altogether secondary and subordinate. One of the best of the more authentic and better works which should take the place of histories is a treatise by the Marquis De Uztariz, on the industrial economy of Spain, originally printed in 1724, and reprinted in England in 1751, by John Kippax, under the patronage of the Prince of Wales. It gives a vivid picture of the great industries in wool and silk which made Spain rich and prosperous before the gold of the New World was known. Seville, Granada, Cordova and Toledo became magnificent cities through these industries in wool and silk, and sent Spanish cloths and embroideries to every country of Europe. Seville alone had 16,000 looms, employing 48,000 persons, and maintaining directly 12,000 families, or 60,000 persons. But this statesman of that early period found that great misfortunes followed the neglect of manufactures, and that a false policy of taxation had transferred many of them to France and the Low Countries. He wrote earnestly in resistance of that policy, and struggled to restore the ancient splendor of those great cities. The Spanish ruling class was infatuated with the gold and silver of the American colonies, however, and the first great industrial migration carried what remained of them into the Low Countries, from which they were subsequently drawn partly into France, by the skill of Minister Colbert, and still later into England.*

*The origin of these industries of Spain is so forcibly told by Marquis De Uztariz that I quote from his chapter citing the laws of King Ferdinand, Ferd-

At the first examination I had the opportunity to make of the textile industries of Philadelphia, I was struck by the evidence afforded that they represented a migration and transfer which would soon attain much greater proportions, and which even then deserved public attention as an important interest. I published a list of mills in 1857, and again in 1858, writing frequently in regard to it, and reprinting the Census of 1860, of which I had the supervision so far as related to manufactures. In that year I had the opportunity to show to Mr. W. S. Lindsay, member of Parliament from a north of England district, the work of thousands, recently emigrated from Nottingham, Leeds and other manufacturing districts, claiming that a transfer of those industries was in progress which would have a great influence on the future of the United States. Again in 1870 the evidences became still more decisive and the rate of progress much more rapid, but it was reserved to the period from 1876 to 1880 to complete what must be regarded as the most striking and massive of the great historic movements which have, since the 15th century, carried from one nation to another the crown of ascendancy in textile industries. I am well aware that it will not be admitted in many quarters that this movement has gone so far as I claim. This point is not material, however, if the facts of rapid progress in that direction are conceded. No one can deny that the most important successes have attended the effort to establish the textile industries here, and that they represent an extent of employment of productive power in looms and machinery exceeding the most prosperous days of Seville or of Manchester.

The point of interest in the philosophic sense is this apparent relation of national development to these greater industries. It is singular that they have migrated as national supremacy has changed its place, or more probably that an enforced migration has been the chief agency in building up one country at the expense of another. Spanish prosperity may very naturally have been supposed to be inseparable from the Spanish race during the period in which Ferdinand and Isabella "published one hundred and

inand and Isabella, and the Emperor Charles V, as follows: "The ancient historians, more inclined to speak of battles, sieges, revolutions and other events that make a noise in the world, than to transmit the publick measures in favor of commerce, take little notice of the provisions made for its encouragement by our great monarchs, who most distinguished themselves by their wisdom in the arts of peace and war. King Ferdinand, the Pious was of this class, and in his reign there is mention of one circumstance on this head, that after he had rescued the city of Seville from the yoke of the Mohammedans in 1248, he settled there many artificers who are the basis of a profitable commerce, which is alone attainable by good manufactories." Next, their Majesties, Ferdinand and Isabella, by statutes of 1478 to 1494, made various regulations in favor of manufacturers of silks, brocades and cloths, and the said Ferdinand and Queen Juana, his daughter, in 1511, "published 119 laws respecting the fabrication, dying and sale of cloths and stuffs, every one of which tended to make improvements in these manufactures." Also, the Emperor Charles V., by statutes of 1528, 1549, 1552 and others, added a hundred further laws regulating these industries, but during this century the imposition of heavy internal taxes aided the transfer of many textile industries to Flanders, and in part to France.—See *Kippax's translation*, 1751, Vol. I, p. 196, &c.

nineteen laws respecting the fabrication, dying, and sale of cloths and stuffs, every one of which tended to make improvements in each of the several manufactures'' ; but two centuries later this industry had gone from Spain and from the Spanish race to countries in the north of Europe. From Europe to this country the transition is perfectly natural and easy, coming with the immigration which all the circumstances unite in inviting. It is not in opposition to race prejudices, but entirely in accord with them, that the crowded populations of French or English cities should bring with them the industries which found their best market here, and establish silk weaving, tapestries, damasks, and all forms of ornamented tissues in silk and wool, as well as the plainer fabrics which are more promptly introduced. It is certain that they are being so introduced, and with a degree of rapidity much greater than is usually supposed.

The elements of permanence belonging to this movement are, however, better shown in the transfer of English industries in wool and cotton, than in the silk and worsted of France and Germany. The English movement has been in progress for twenty-five or thirty years, with a preliminary or partial movement from the north of Ireland and extreme north of England fifty years ago. Hand loom weaving in linseys and colored cottons was the distinctive form here, while the cloth fulling and woolen cloth weaving from the west of England was common to the whole country. Closely following these was the carpet weaving, which originated in France, but was given a form better adapted to general use in the English ingrains, and one which transplanted here has been extended with great rapidity and success. Yet the weavers are English, and establishments whether of the smallest or of enormous magnitude represent English migrations chiefly, and bring with them all that English skill has attained, as well as add the most recent American peculiarities. The impression they make is very striking, that it is not any present commercial or business advantage that has brought them, and that the 6000 men of English birth which the carpet industry alone employs in Philadelphia, are greater than all the temporary circumstances that can surround this carpet industry as a business. Their presence creates many of these circumstances, and naturalizes the change.

In the hosiery and knit goods industry there is a large preponderance of English identity, as it may be said, of identity in machinery, in workmen and in proprietorship, but there is also a considerable share of German and French elements of each of these classes. The variety of fabrics and articles made in this manner is much greater than is usually supposed, scarcely an article of finished clothing being excepted. Shawls, scarfs, caps and head dresses, coats or jackets, sleeves, gloves, &c., with all forms of hosiery proper, enter into consumption in this country to the extent probably of forty millions of dollars in value yearly. Under the effect of recent developments, four-fifths of the supply required is now produced here, and with changes in design and adaptation constantly effected, the industry itself is much extended and enlarged.

These primary and necessary industries, as they may be characterized, are here as highly developed in ornamentation and artistic effect as many of the more costly textile fabrics. Once established on a basis of skilled artisans resident here the changes which are required for assimilation with the country are effected easily and without disturbing that basis, or weakening its identity. The German workman is not less a German or the English knitter not less a representative of English skill because of the new adaptations which he acquires here, or is directed to employ by a proprietor who uses steam power where hand power only was previously employed.

This age is as luxurious in some of its tastes and demands as any that has preceded it, but in others it is much more moderate. The costly royal cloths of Spain, rich of themselves and loaded with gold or silver embroidery, are no longer demanded by any market; and it is only in fabrics exclusively of silk that such obvious luxury finds an acceptable outlet. But what is wanting on the more costly is more than made up on the average quality of fabrics in universal use.

The relation of these industries to the prosperity of the cities where they exist, and to that of the nation or country in which they form a prominent feature of general business, is not less marked now than at any former period. And the adaptations of steam power, which now increase production enormously without impairing its quality, must invariably accumulate wealth more rapidly than was possible before steam was known. The 16,000 looms of Seville constituted a remarkable productive force for the age in which they flourished, and they may well be named with pride by the Spanish minister; but there are 30,000 looms driven by steam power in Philadelphia, producing a vastly greater aggregate of such fabrics as this age demands; and though inferior in costliness, it is probable that they are as productive in material wealth to the city as were the looms of that once splendid city of Spain.

If this is in fact the natural line of movement from one country to another of these greater industries, the matter is worthy of consideration on higher grounds than those which are merely commercial or industrial in the business sense. The evidence is too strong to admit of doubt that the industrial migrations, taking with them the foundation industries in wool, silk and cotton, have made this city of Philadelphia their chief point of destination; not exclusively, however, but with a liberal distribution in northern cities. They do not find so much to favor them in the factory towns of New England, to which only the workmen in like factories in England or on the continent find themselves adapted. These factories represent a different class, distinctly separated from the aggregations of skilled workmen in Lyons, Paris, Philadelphia and like large cities. They are in some respects higher and more advanced developments; but they rest on a more narrow basis. A factory or corporation may exist for twenty years in one locality without fixing there an associated business which would survive the stoppage of the one mill. But here it is the workmen and their looms that constitute the fixture. The mill and the steam power are a valuable

adjunct, but the work can go on without them. Nothing but the *Alcavala* of ruinous taxation, or the substitution of a tax on exports for the proper tax on imports, as was done under the corrupt rule of the monarchs who ruined Spain, can destroy indigenous or thoroughly nationalized industries such as these.

The foundation industries in wool, cotton and silk have come here to stay; they have come from England first, and next from Germany and from France; and they already furnish an addition of many thousands of trained adults, men and women, to the body of the population of the greater cities of the United States.

Mr. Phillips called to the attention of the Society the new Dictionary of the English Language which was now approaching its completion.

The first germ of the project grew out of a paper read before the Philological Society in 1857, by Archbishop Trench, on "Some deficiencies in our English Dictionaries." The Society, subsequently, in 1859, issued a "Proposal for the publication of a New English Dictionary," in which the general scope and method of the intended work were set forth. The heavy financial outlay requisite and other obstructing causes retarded the work till about three years ago, when Dr. J. A. H. Murray, President of the Philological Society and Master of the great Mill Hill School, in London, took up the management and infused a new vigor into the undertaking. The plan is to furnish a history of each word in the English language, with a quotation from some author in every century since its first appearance, thus showing the date of its entrance, and the progressive changes, if any, which have occurred in its form and meaning. According to the materials already in hand, giving a sentence for every citation, the Dictionary would fill seven quarto volumes of 2000 pages each, but the intention is to reduce the quotations, when it can be done, to a smaller compass, thus keeping it within the trivial limit of "7000 quarto pages of the size of Littré's French Dictionary, making a work one and a half times the size of that, or more than four times the size of Webster, say in four thick volumes quarto." The book will be published at the Clarendon Press, Oxford, and the intention is that it shall be completed within ten years. The first part of 400 pages containing the letter A is to be ready in 1882, the residue to follow at regular intervals until the whole is finished. The supervision of the reading for the Dictionary done in America, has been confided to our fellow-member, Professor March, of Easton, Pa., who has awakened and stimulated the interest in this country, so that from Maine to Oregon daily contributions of quotations are pouring in to the learned editor.

When finished, the Dictionary will be one of the great books of the world, a stupendous monument for all time to the industry, zeal and learning of the scholars of the nineteenth century.

A letter was read from Mr. Eli K. Price suggesting that

photographs should be taken from the portrait of Mr. Michaux, for distribution among prominent botanists and botanical institutions. On motion an appropriation of \$25.00 was made for the purpose.

The Committee to attend the Centennial Celebration of the American Academy of Arts and Sciences at Boston, reported and was discharged.

And the meeting was adjourned.

Stated Meeting, July 16, 1880.

Present, 4 members.

Vice-President, Dr. LECONTE, in the Chair.

A photograph of Henry Armit Brown, a late member of the Society, was received for the album.

Letters of acknowledgment were received from the Statistical Society of London, dated June 24, 1880 (103, 104); and the Royal Danish Academy, Copenhagen, June 7, 1880 (103, 104).

Letters of envoy were received from the Trigonometrical Branch of the Survey of India, dated Dehra Dun, May 5, 1880; the Meteorological Office, London, June, 1880; and the Department of the Interior, Washington, D. C., June 29, 1880.

A letter was received from Mr. Murray, Acting Secretary of the American Philological Association, tendering the thanks of the Association for the use of the rooms of the Philosophical Society, and for the courteous attentions received by the Association.

A postal card was received from the American Chemical Society, stating that they had not received No 104, of our Proceedings.

Donations for the Library were received from the Acad-